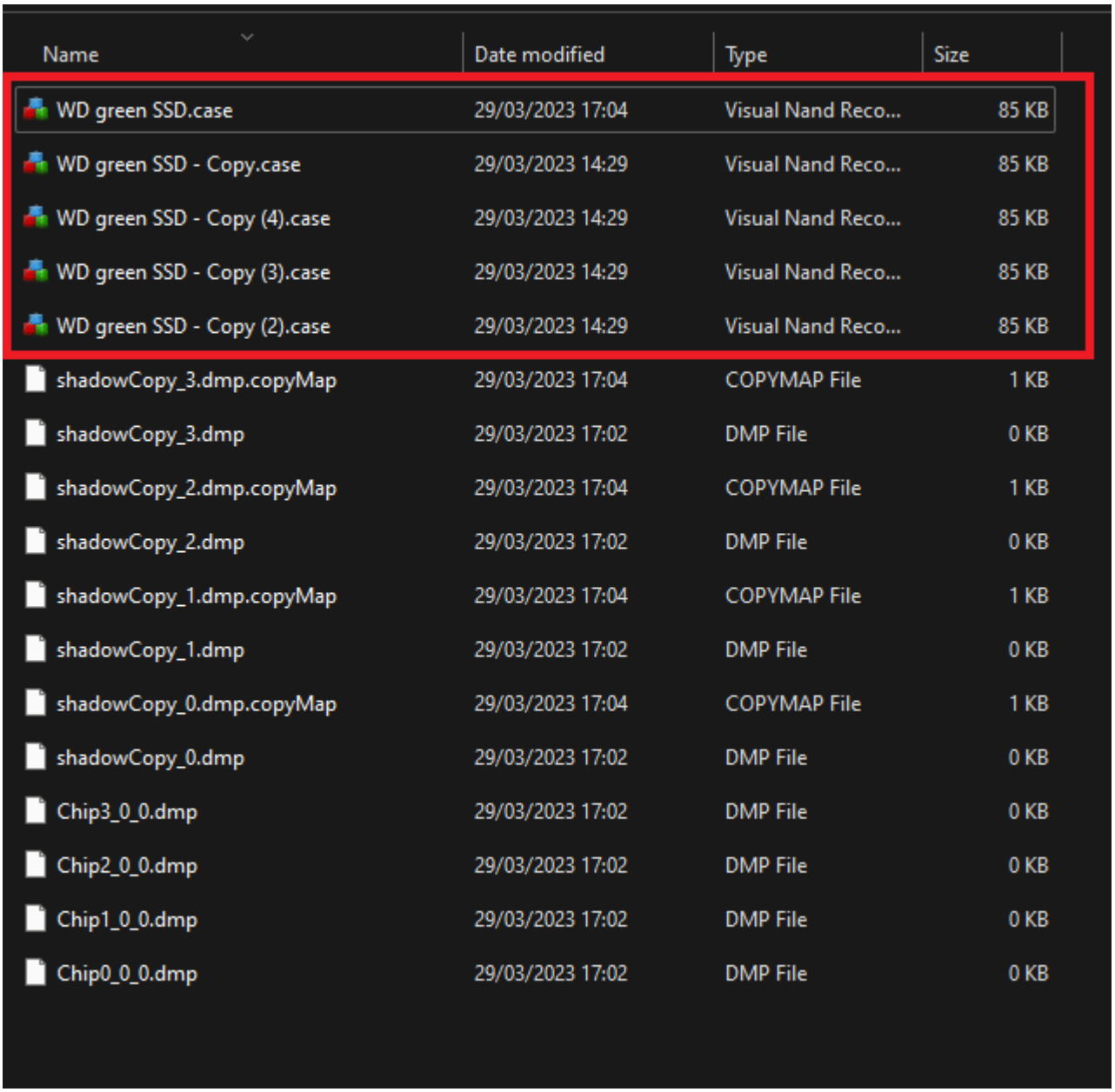
SSD WD Green with SanDisk controller Automatic Solution - How to Get Data Faster

SSD drives use the same NAND memory as USB drives or Memory cards. So VNR could be used for data recovery from that storages too. We have found the solution for a few WD Green SSD disks with SanDisk controllers.

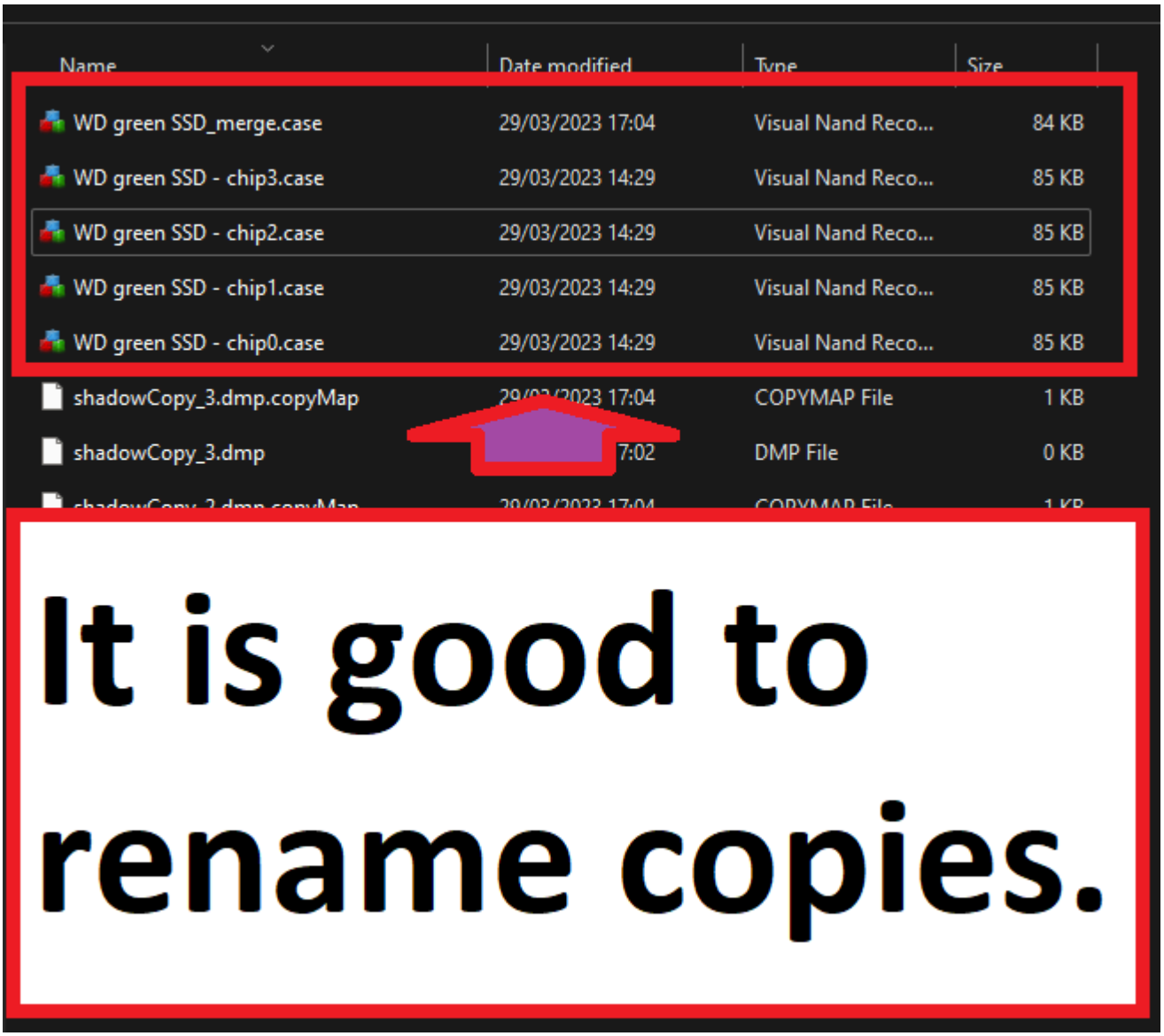
The solution for SSD with a capacity of 120 Gb works pretty well. However, it may be slower for SSDs of 240 GB and 480 GB.

There are several tips on how to make it much faster. Firstly, it is necessary to create a case, apply the solution from the Base of Solutions, and save the case then.

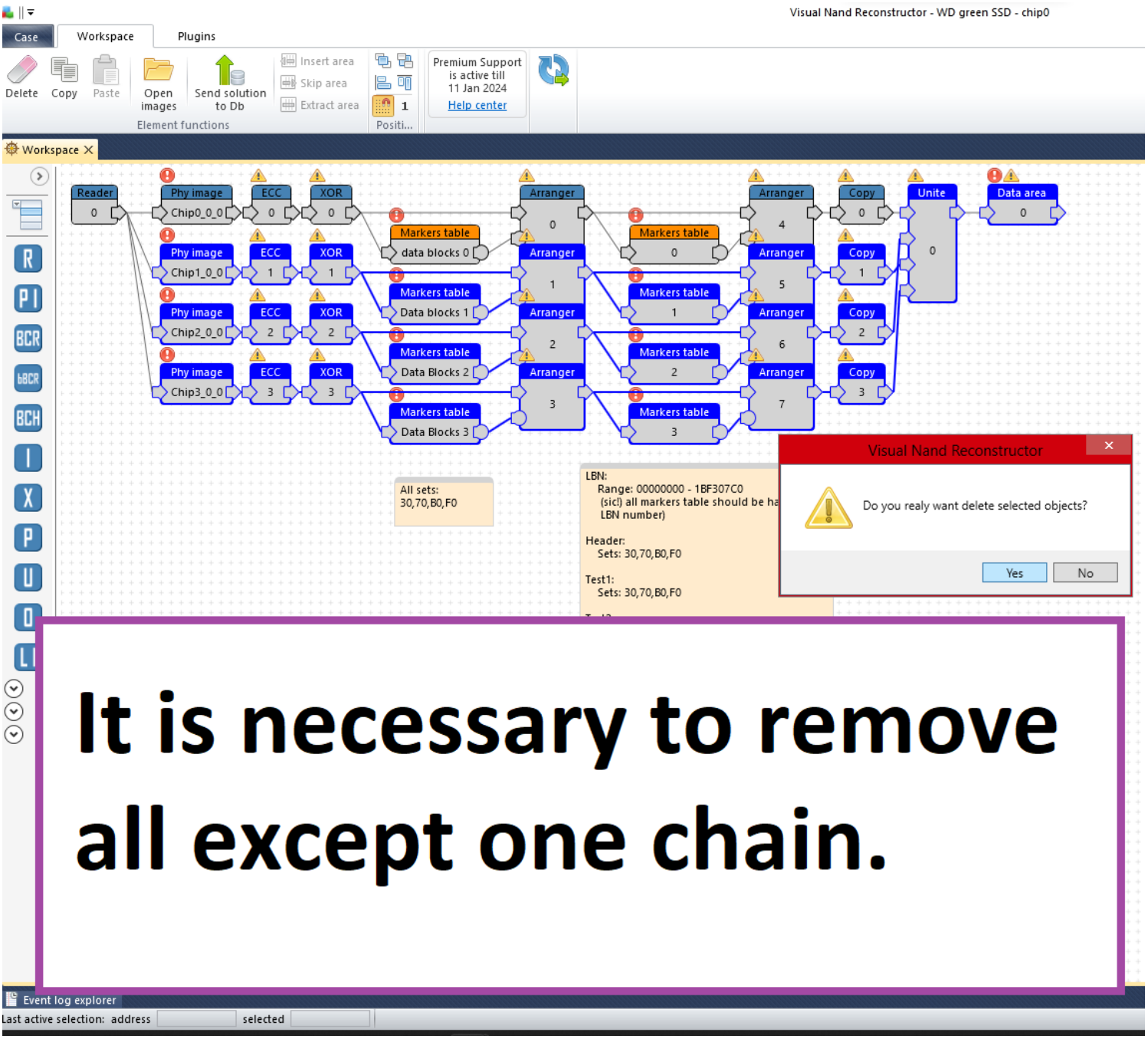
The next thing to do is to make copies of the saved case. The number of copies should be the number of chips plus one to merge it all later.



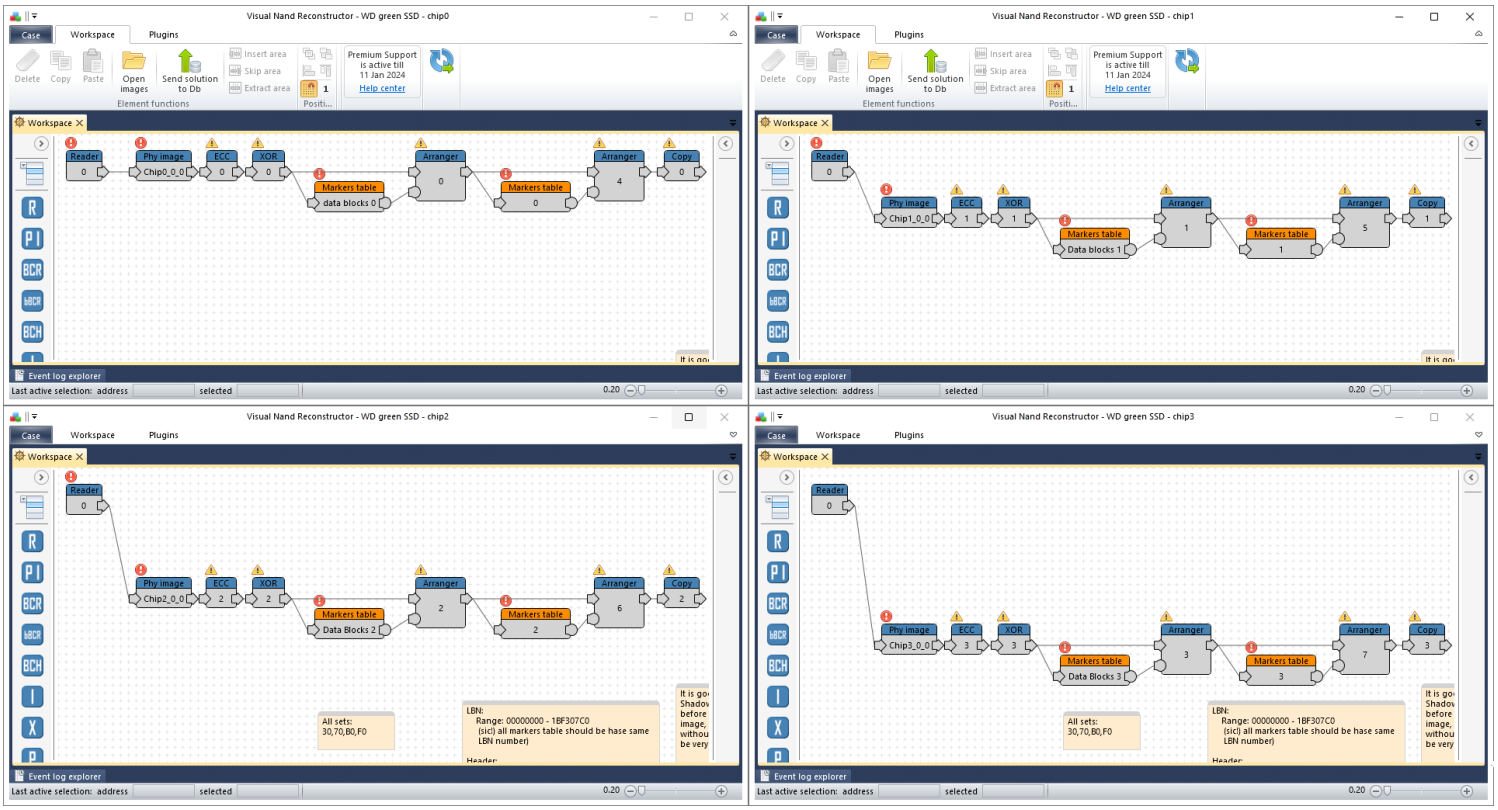
Name	Date modified	Type	Size
WD green SSD.case	29/03/2023 17:04	Visual Nand Reco...	85 KB
WD green SSD - Copy.case	29/03/2023 14:29	Visual Nand Reco...	85 KB
WD green SSD - Copy (4).case	29/03/2023 14:29	Visual Nand Reco...	85 KB
WD green SSD - Copy (3).case	29/03/2023 14:29	Visual Nand Reco...	85 KB
WD green SSD - Copy (2).case	29/03/2023 14:29	Visual Nand Reco...	85 KB
shadowCopy_3.dmp.copyMap	29/03/2023 17:04	COPYMAP File	1 KB
shadowCopy_3.dmp	29/03/2023 17:02	DMP File	0 KB
shadowCopy_2.dmp.copyMap	29/03/2023 17:04	COPYMAP File	1 KB
shadowCopy_2.dmp	29/03/2023 17:02	DMP File	0 KB
shadowCopy_1.dmp.copyMap	29/03/2023 17:04	COPYMAP File	1 KB
shadowCopy_1.dmp	29/03/2023 17:02	DMP File	0 KB
shadowCopy_0.dmp.copyMap	29/03/2023 17:04	COPYMAP File	1 KB
shadowCopy_0.dmp	29/03/2023 17:02	DMP File	0 KB
Chip3_0_0.dmp	29/03/2023 17:02	DMP File	0 KB
Chip2_0_0.dmp	29/03/2023 17:02	DMP File	0 KB
Chip1_0_0.dmp	29/03/2023 17:02	DMP File	0 KB
Chip0_0_0.dmp	29/03/2023 17:02	DMP File	0 KB



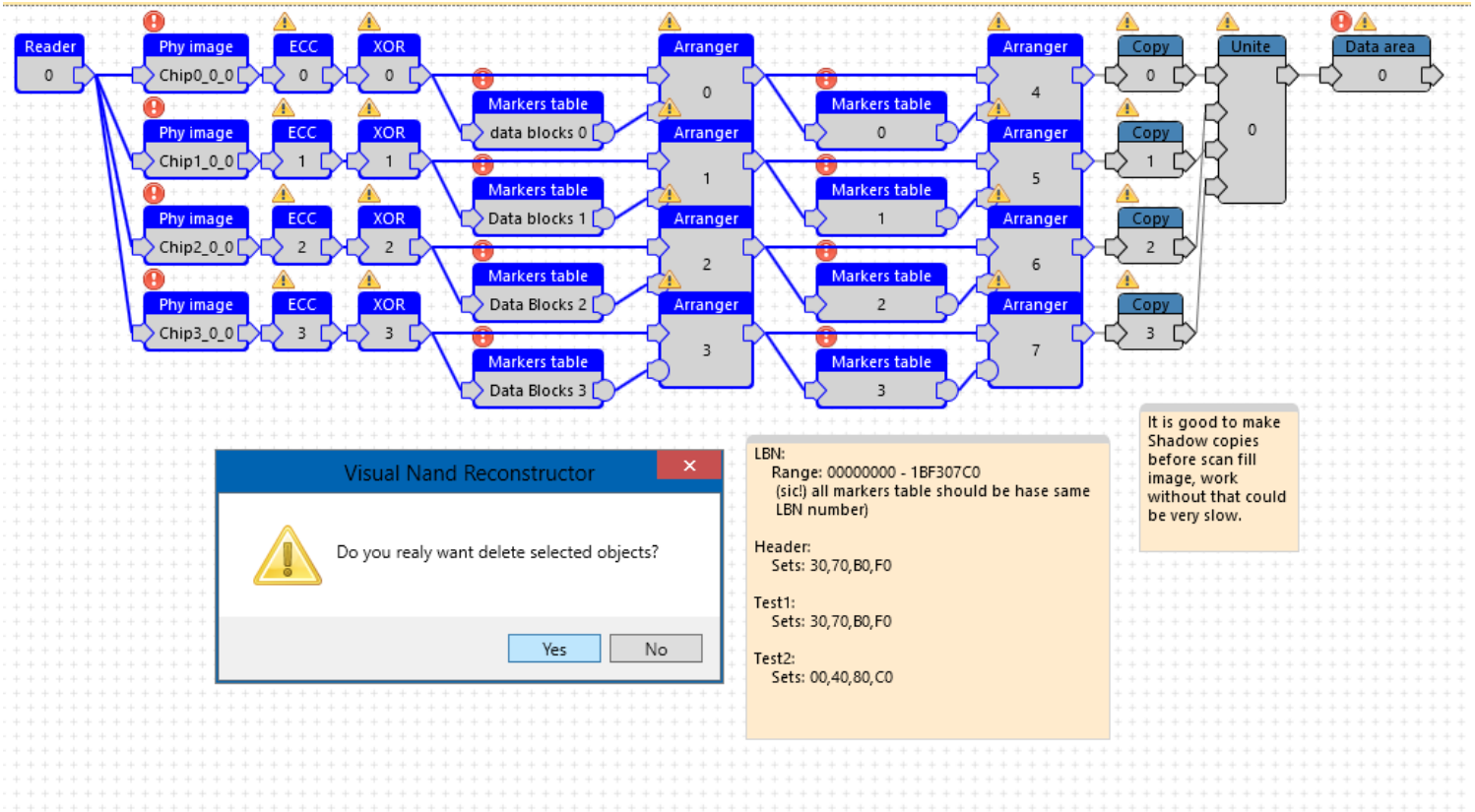
In the copy of the case for a particular chip, we should delete all chains except the one for the current chip.



For four chips we have four cases by one chain.


Visual Nand Reconstructor - WD green SSD - chip0
Visual Nand Reconstructor - WD green SSD - chip1
Visual Nand Reconstructor - WD green SSD - chip2
Visual Nand Reconstructor - WD green SSD - chip3

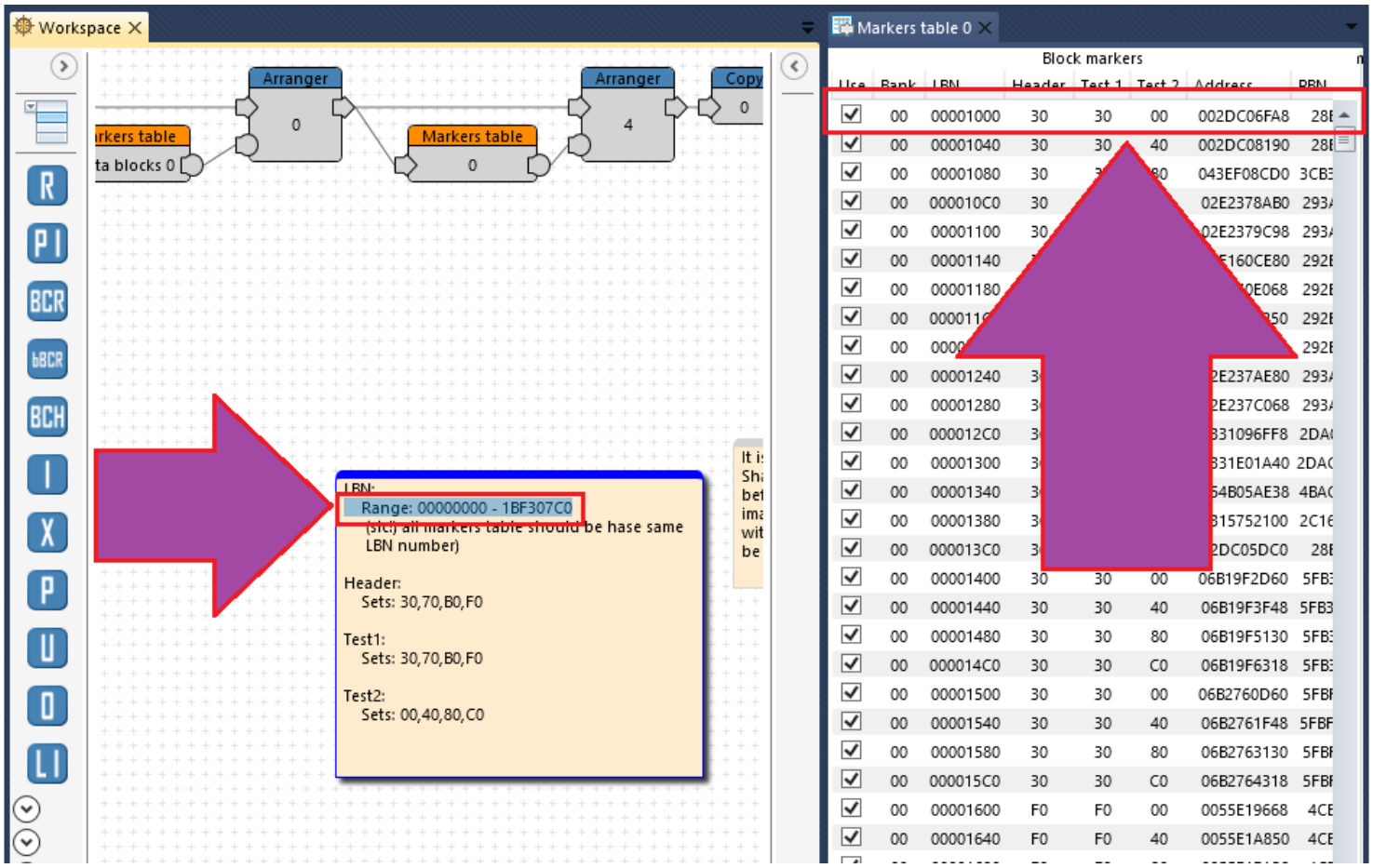
In the last case file- for Uniting all chains, we can remove all elements except Shadow copies, Unite, and Data area.



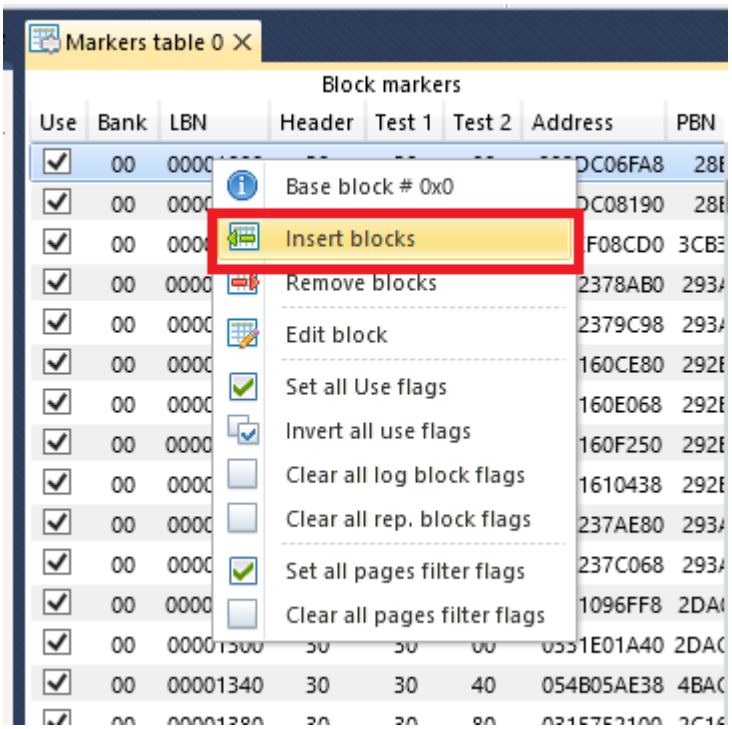
Then it's necessary to read all the chips in each case one by one and fix bit errors.

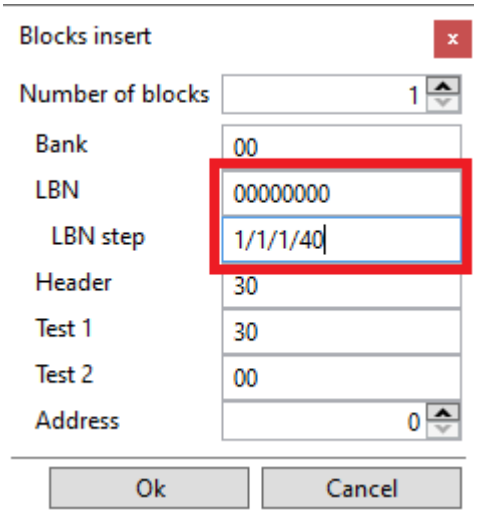
After removing bit errors, it is necessary to create the markers tables.

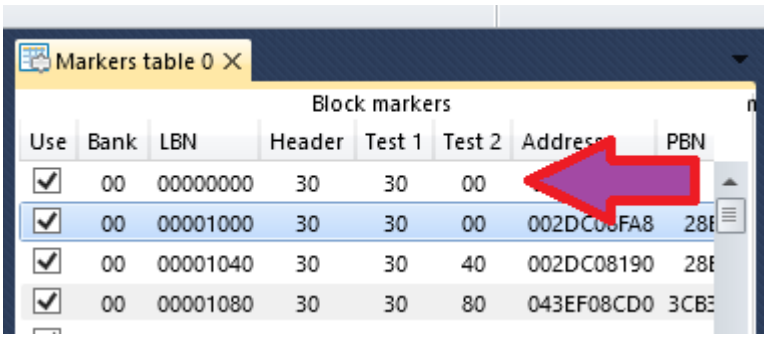
The next important thing is the LBN range in the last markers table. It is necessary to check the first and last blocks, and the number of blocks



If there is no 00000000 block, then it is necessary to add it manually. With the right click, it's necessary to select the option "Insert blocks". The default LBN step is 1/1, it is necessary to change it to 1/1/1/40.

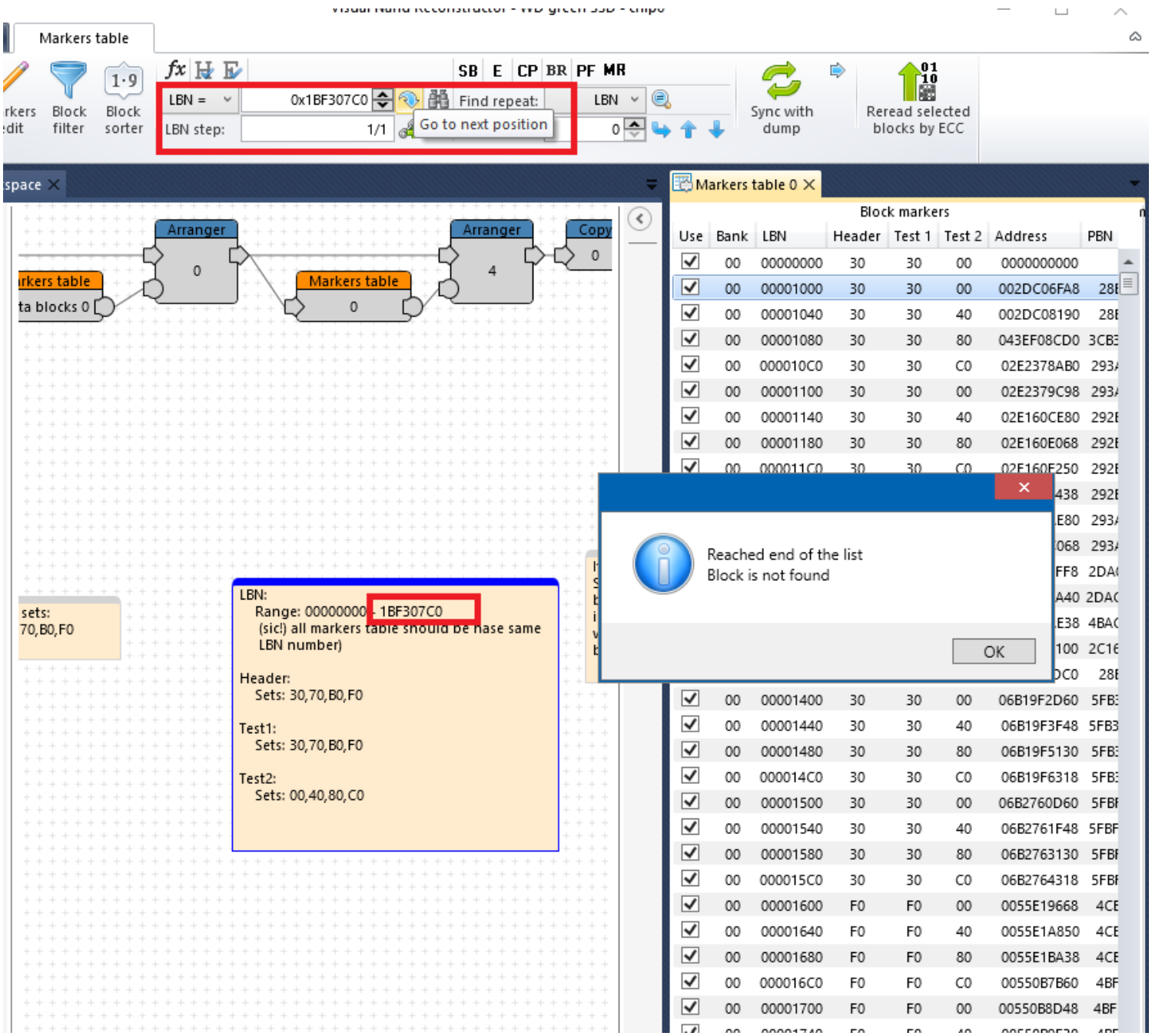


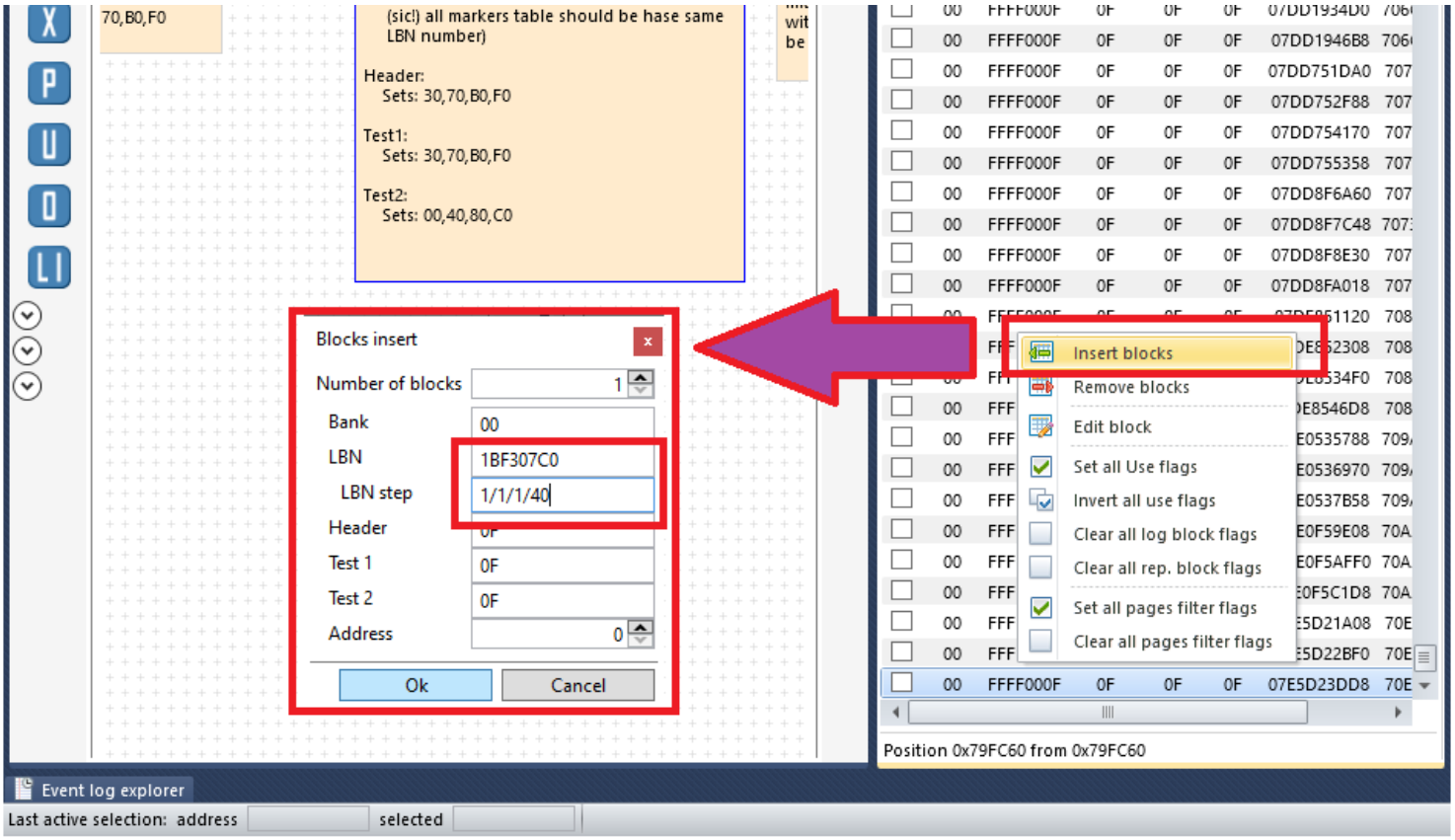




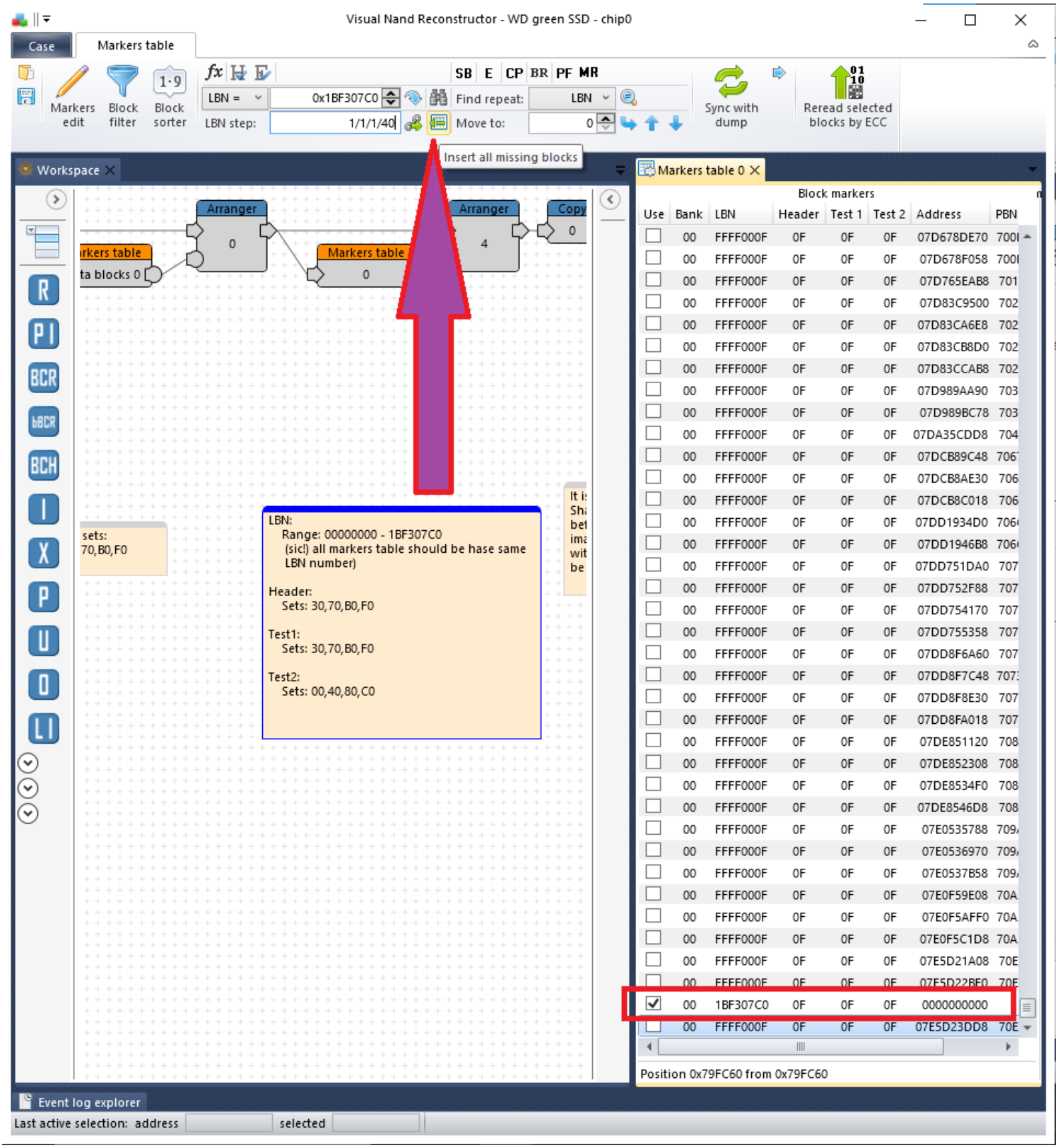
The presence of the last block can be checked using the "Go to LBN" option. Just paste the number of the last block from the specified range from the Note and click on the Arrow button. If there is no that

LBN, it should be added manually too.

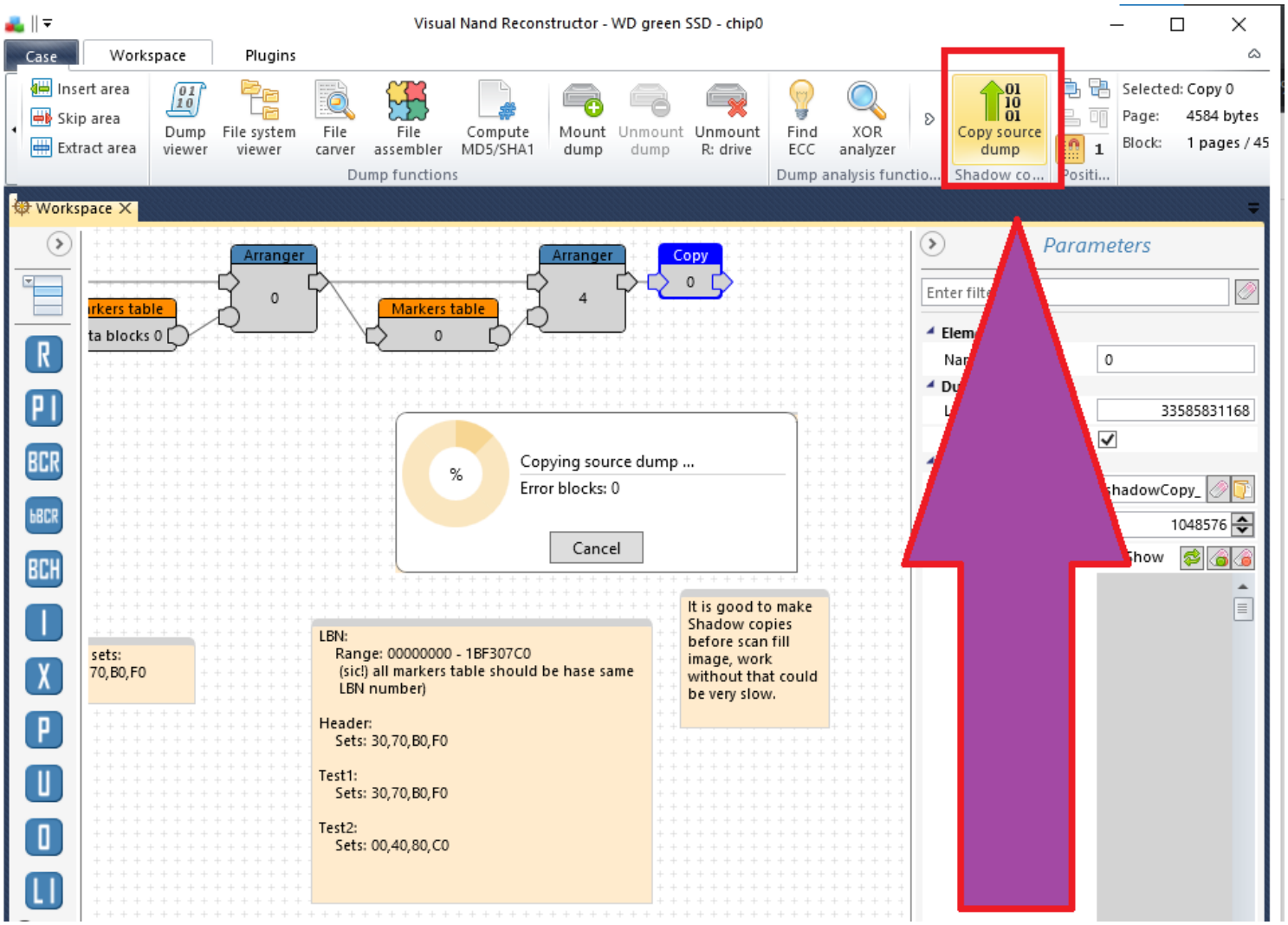




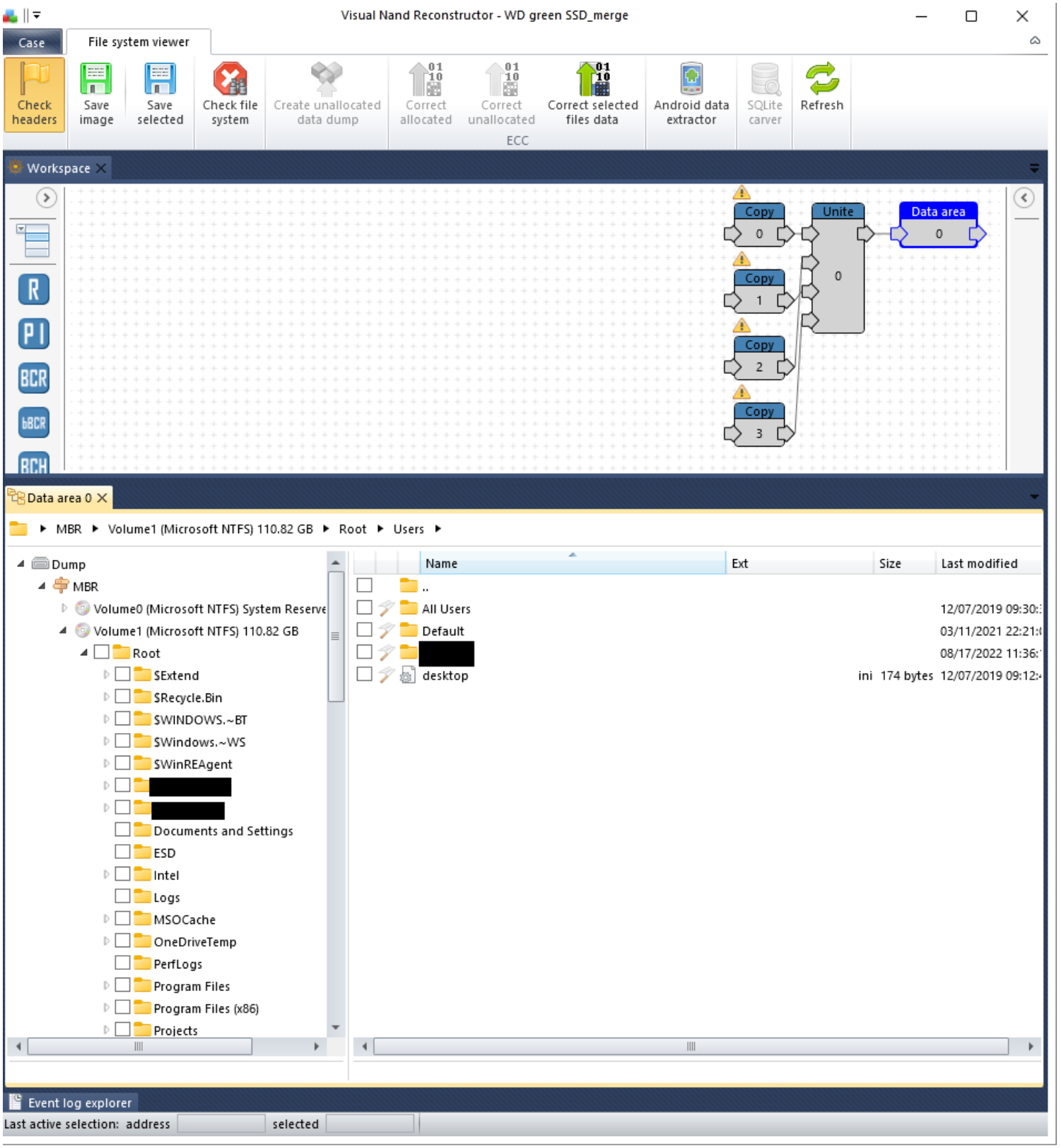
When the first and last blocks are correct, it is necessary to add Missing blocks (this option is necessary because result dumps must be the same size for all the chains, it is the most important condition).


Visual Nand Reconstructor - WD green SSD - chip0
Case
Markers table
Markers edit
Block filter
Block sorter
LBN =
0x1BF307C0
LBN step:
1/1/1/40
Find repeat:
LBN
Move to:
0
Sync with dump
Reread selected blocks by ECC
Insert all missing blocks
Workspace
Arranger
Markers table
Copy
LBN:
Range: 00000000 - 1BF307C0
(sic!) all markers table should be hase same LBN number)
Header:
Sets: 30,70,B0,F0
Test1:
Sets: 30,70,B0,F0
Test2:
Sets: 00,40,80,C0
Markers table 0
Block markers
Use Bank LBN Header Test 1 Test 2 Address PBN
00 FFFF000F 0F 0F 0F 07D678DE70
00 FFFF000F 0F 0F 0F 07D678F058
00 FFFF000F 0F 0F 0F 07D765EAB8
00 FFFF000F 0F 0F 0F 07D83C9500
00 FFFF000F 0F 0F 0F 07D83CA6E8
00 FFFF000F 0F 0F 0F 07D83CB8D0
00 FFFF000F 0F 0F 0F 07D83CCAB8
00 FFFF000F 0F 0F 0F 07D989AA90
00 FFFF000F 0F 0F 0F 07D989BC78
00 FFFF000F 0F 0F 0F 07DA35CDD8
00 FFFF000F 0F 0F 0F 07DCB89C48
00 FFFF000F 0F 0F 0F 07DCB8AE30
00 FFFF000F 0F 0F 0F 07DCB8C018
00 FFFF000F 0F 0F 0F 07DD1934D0
00 FFFF000F 0F 0F 0F 07DD1946B8
00 FFFF000F 0F 0F 0F 07DD751DA0
00 FFFF000F 0F 0F 0F 07DD752F88
00 FFFF000F 0F 0F 0F 07DD754170
00 FFFF000F 0F 0F 0F 07DD755358
00 FFFF000F 0F 0F 0F 07DD8F6A60
00 FFFF000F 0F 0F 0F 07DD8F7C48
00 FFFF000F 0F 0F 0F 07DD8F8E30
00 FFFF000F 0F 0F 0F 07DD8FA018
00 FFFF000F 0F 0F 0F 07DE851120
00 FFFF000F 0F 0F 0F 07DE852308
00 FFFF000F 0F 0F 0F 07DE8534F0
00 FFFF000F 0F 0F 0F 07DE8546D8
00 FFFF000F 0F 0F 0F 07E0535788
00 FFFF000F 0F 0F 0F 07E0536970
00 FFFF000F 0F 0F 0F 07E0537B58
00 FFFF000F 0F 0F 0F 07E0F59E08
00 FFFF000F 0F 0F 0F 07E0F5AFF0
00 FFFF000F 0F 0F 0F 07E0F5C1D8
00 FFFF000F 0F 0F 0F 07E5D21A08
00 FFFF000F 0F 0F 0F 07E5D22BF0
00 1BF307C0 0F 0F 0F 0000000000
00 FFFF000F 0F 0F 0F 07E5D23DD8
Position 0x79FC60 from 0x79FC60
Event log explorer
Last active selection: address
selected

After the image is built, the Shadow copy should be done.



All these steps must be repeated for all NAND chips. When all copies are done, we can open the last case for merge all copies and get data.


Visual Nand Reconstructor - WD green SSD_merge
Case
File system viewer
Check headers
Save image
Save selected
Check file system
Create unallocated data dump
Correct allocated
Correct unallocated
Correct selected files data
ECC
Android data extractor
SQLite carver
Refresh
Workspace
Copy 0
Copy 1
Copy 2
Copy 3
Unite
Data area
Data area 0
MBR ▸ Volume1 (Microsoft NTFS) 110.82 GB ▸ Root ▸ Users ▸
Dump
MBR
Volume0 (Microsoft NTFS) System Reserve
Volume1 (Microsoft NTFS) 110.82 GB
Root
$Extend
$Recycle.Bin
$WINDOWS.~BT
$Windows.~WS
$WinREAgent
Documents and Settings
ESD
Intel
Logs
MSOCache
OneDriveTemp
PerfLogs
Program Files
Program Files (x86)
Projects
Name
Ext
Size
Last modified
All Users
Default
desktop
ini 174 bytes
Event log explorer
Last active selection: address
selected